Development and Validation of Neurodiversity Attitudes Scale

by

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ABSTRACT

The neurodiversity movement is a conceptual framework and sociopolitical movement that views neurological differences and disabilities as natural human variations that can form a central component of one's identity. Despite the attention in disciplines outside of psychology and academia, there has been little attention paid to neurodiversity within counseling psychology. The present study consists of the development and initial validation of a quantitative scale to assess endorsement of a neurodiversity framework with respect to autism. Diverse samples of adults were utilized to conduct exploratory (N = 249) and confirmatory (N = 259) factor analyses, resulting in a three-factor model that demonstrated adequate reliability and validity. Additional analyses revealed that endorsement of the neurodiversity framework is positively correlated with activist engagement and self-esteem, and that endorsement of the neurodiversity framework is negatively correlated with negative attitudes toward people with disabilities. Autistic adults endorsed the neurodiversity framework to a greater extent than neurotypical adults. Implications for psychological research regarding neurodiversity and disability identity are discussed.

DEDICATION

Dedicated to my Grandpa Stanley Cook

Bunn-Parsons, the Autism Ambassadors Corps, and the Phoenix autism community for providing feedback for the study and showing interest in this project. I'd like to thank all of the study participants as well as organizations and groups that promoted my project. Additionally, thank you to Arizona State University's Graduate and Professional Student Association for the research grant.

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CHAPTER 1

INTRODUCTION

Overview

The neurodiversity movement promotes the idea that neurological differences and

disabilities (e.g., autism spectrum disorder) are natural human variations that should be

accommodated, valued, and respected by society rather than pathologized or eradicated

(Brownlow, 2010; Bumiller, 2008; Graby, 2015; Griffin & Pollak, 2009; Meyerding,

1998). Although neurodiversity has been explored in academic disciplines outside of

psychology, there has been little attention paid to it—or disability activism in general—

within counseling psychology literature (Foley-Nicpon & Lee, 2012; Goodley &

Lawthom, 2006; Olkin & Pledger, 2003; Woo et al., 2016). Therefore, this dissertation

project consists of the development and initial validation a scale to assess endorsement of

neurodiversity attitudes with respect to autism. This was accomplished through reviewing

relevant literature, consulting with neurodiversity and disability experts, and conducting

exploratory and confirmatory factor analyses. Additionally, I explored potential relations

between adults' endorsement of neurodiversity attitudes and endorsement of medical and

social models of disability, activism, disability prejudice, and well-being. More

specifically, I compared the endorsement of neurodiversity attitudes between

neurodivergent[1]-identified individuals and the general population. This project has

implications for better understanding disability rights activism and disability identity, as

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[1] Neurodivergent is the term commonly used to describe individuals who fit within conditions under the
neurodiversity umbrella (Graby, 2015; Ortega, 2009).

well as for educating mental health professionals in working with neurodivergent individuals.

Potential Contributions

Despite the significance of the construct of neurodiversity in terms of its cultural impact and its utility in understanding disability and mental health, there has been little psychological work with this construct—and little psychological scholarship that utilizes disability studies constructs in general (Dirth & Branscombe, 2018; Olkin & Pledger, 2003). No validated scale for assessing the endorsement of neurodiversity attitudes currently exists. The creation of a scale would help to create a shared understanding and assessment of the construct of neurodiversity within psychological research. It also would allow psychologists and other social scientists to use their methodologies in order to understand how people relate to this construct. Psychological methods have much to offer to the study of disability and neurodiversity. However, without a valid scale for endorsement of neurodiversity attitudes, psychological scholarship is limited in how it can study a construct that has been widely discussed in disability studies, activist movements, and other academic and non-academic spaces. By increasing scholarly attention to disability studies and the neurodiversity movement, I hope to help the counseling psychology field to better recognize and advocate for the needs of clients and students with disabilities and to better recognize the potential that movements such as the neurodiversity movement have to empower and aid people with disabilities.

Organization of Dissertation

The following dissertation begins with a review of the relevant literature on neurodiversity and the study of disability within psychological literature (Chapter Two). I

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then discuss the need for a scale that assesses endorsement of neurodiversity attitudes and propose hypotheses related to a neurodiversity attitudes scale. In the methodology chapter (Chapter Three), I outline how I created and refined an item pool, conducted an exploratory factor analysis, and conducted a confirmatory factor analysis. In the results chapter (Chapter Four), I provide the results of the factor analyses, as well as hypothesis testing. Finally, in the last chapter (Chapter Five), I discuss the implications of these results, limitations of the study, and directions for future research.

CHAPTER 2
DEVELOPMENT AND VALIDATION OF NEURODIVERSITY ATTITUDES SCALE

History and Philosophy of Neurodiversity Movement

Neurodiversity is both an explanatory framework and a sociopolitical movement

that seeks to present neurological differences as hard-wired natural differences that

should be accommodated, valued, and respected by society rather than pathologized,

cured, or normalized (Brownlow, 2010; Bumiller, 2008; Graby, 2015; Griffin & Pollak,

2009; Kapp, 2020; Meyerding, 1998). Member of the autistic self-advocacy movement

are credited with developing and using this terminology in the 1990s (e.g., Blume, 1998;

Meyerding, 1998; Singer, 1999), and much of the subsequent research and discussion

surrounding the neurodiversity movement has focused on the autism spectrum. However,

the neurodiversity movement has also included diagnostic categories such as ADHD,

dyspraxia, dyslexia, Tourette's syndrome, epilepsy, and bipolar disorder, among other

neurological and psychiatric diagnoses (Blume, 1998; Fenton & Krahn, 2007; Graby,

2015; McGee, 2012; Runswick-Cole, 2014). The neurodiversity movement and autistic

self-advocacy movement arose out of advances in the disability rights movement in

general, as well as more specific disability rights movements (e.g., the Deaf movement),

among other societal and scientific developments (Dekker, 1999; Singer, 1999).

Proponents of neurodiversity have been strongly influenced by the social model of

disability, which emphasizes the ways in which societal and cultural values, practices,

and institutions have contributed to the difficulties faced by people with disabilities

(Shakespeare, 2017; Singer, 1999). Therefore, proponents of neurodiversity have located

the "problem" of neurodevelopmental disabilities within society and its practices rather

than in the individual with a particular diagnosis. The rise of the Internet also has allowed

disparate individuals to come together and form a community using a form of

communication that, according to many autistic self-advocates, feels more comfortable

and natural than face-to-face interactions (Dekker, 1999).

Given the nature of the development of the neurodiversity movement (i.e., many

voices and perspectives gathering on the Internet), the definition of neurodiversity is

complex and multifaceted. Some proponents emphasize different aspects of the definition

than others, and—as referenced above—the breadth of the neurodiversity umbrella is ill-

defined. In order to understand the definition of neurodiversity and the neurodiversity

movement, I have consulted several sources, including those given credit to coining the

term "neurodiversity" (Blume, 1998; Singer, 1999), disability studies literature (e.g.,

Baker, 2006). Literature within anthropology (e.g., Bagatell, 2010), empirical literature

within disability-focused journals (e.g., Cascio, 2012), psychological literature (e.g.,

Gillespie-Lynch et al., 2017), sociological literature (e.g., McGee, 2012), narratives and

articles by autistic[2] and neurodivergent individuals (e.g., Meyerding, 1998), and literature

in the medical humanities (e.g., Ortega, 2009), among other sources. The definitions of

neurodiversity and the neurodiversity movement articulated in these sources fall into

several themes: (a) conditions under the neurodiversity umbrella are either neutral or

positive differences rather than deficits, (b) such conditions are hard-wired in the brain

and immutable, (c) such conditions are central to one's identity, (d) people with such

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[2] Individuals in the autistic self-advocacy and neurodiversity movement generally prefer identity-first (i.e., "autistic woman") rather than person-first ("woman with autism") language (Sinclair, 2012).

conditions should be treated as the experts of their experience, and I society should be changed rather than the individual. Each of these themes will be discussed in turn.

Definitions of neurodiversity universally emphasize that conditions under the neurodiversity umbrella are not deficits and should not be treated as such (i.e., stigmatized) (Brownlow, 2010; Graby, 2015; Griffin & Pollak, 2009; Nicolaidis, 2012; Ortega, 2009; Robertson, 2010; Runswick-Cole, 2014; Walker, 2012). While some neurodiversity advocates frame such conditions as neutral differences [e.g., "There is no 'normal' style of human brain or human mind, any more than there is one 'normal' race, ethnicity, gender, or culture" (Walker, 2012, p. 228)], others view neurodiversity as desirable and positive. For example, Blume (1998)—one of the individuals credited with coining and/or popularizing the term "neurodiversity"—claimed that, "Neurodiversity may be every bit as crucial for the human race as biodiversity is for life in general." In other words, neurodiversity is beneficial and essential to the successful flourishing of human society. Whether viewed as a neutral or positive difference, neurodiversity advocates strongly position themselves against viewing conditions under the neurodiversity umbrella as problems or deficits. Rather, it is how society treats these differences that is the problem or deficit.

Proponents of neurodiversity generally frame conditions under the neurodiversity umbrella—especially the autism spectrum—as immutable conditions that are hard-wired into the brain and/or one's genetic makeup (Bumiller, 2008; Graby, 2015; Jurecic, 2007; Kapp et al., 2013; Ortega, 2009; Runswick-Cole, 2014; Sarrett, 2016; Singer, 1999). Viewing conditions in such a way reduces the stigma associated with these conditions, by removing the blame and fault for the condition from the individual or their upbringing

(e.g., blaming "refrigerator mothers" for autism) (Bumiller, 2008). Therefore, many neurodivergent individuals feel relief when ascribing their differences to innate neurological differences because, "they are not a formerly 'normal' person who has been 'broken,' but were different—and equally 'whole—type of person from the beginning" (Graby, 2015, p. 239). Thus, many proponents of neurodiversity reject psychological or social explanations for their conditions, while at the same time emphasizing the barriers that society has enacted—and the psychological effects of such barriers—in preventing the full participation of neurodivergent individuals in society (Graby, 2015; Ortega, 2009; Singer, 1999). Some neurodiversity advocates and scholars have drawn parallels between the neurodiversity movement and LGBTQ rights movements in this regard. Many LGBTQ rights advocates have utilized a similar essentialist framework as a strategy to increase acceptance of LGBTQ individuals and portray efforts to change one's sexual orientation or gender identity to fit heteronormative standards as harmful and ineffective (Arsenaeu et al., 2013; Kirkham, 2017). Similarly, many neurodiversity advocates have framed neurodivergence as an essentialized aspect of the self that is not inherently pathological and cannot—practically or ethically—be changed (Kirkham, 2017).

Since neurodiversity is purported to be located within the brain and cannot be changed, many neurodiversity advocates view neurodivergence as a central part of one's identity (Bagatell, 2010; Bumiller, 2008; Kapp et al., 2013; Kapp, 2018; Nicolaidis, 2012; Ortega, 2009). This is often practiced in terms of the language used to refer to neurodivergent individuals. For example, many autistic self-advocates have voiced a preference for identity-first language (i.e., "autistic person") rather than person-first language (i.e., "person with autism") because they do not view themselves as being

separate from their autism (Kapp et al., 2013; Sinclair, 2012). Additionally, many autistic self-advocates view person-first language as suggesting that, "autism is something bad—so bad that it isn't even consistent with being a person" (Sinclair, 2012, p. 224). Thus, proponents of identity-first language seek to portray autism as a destigmatized human experience rather than a shameful condition or an unimportant "add-on" to one's experience. By portraying autism and other forms of neurodiversity as central to one's individual identity, neurodiversity advocates allow for the emergence of neurodiversity as a collective, politicized identity (Bumiller, 2008; McGee, 2012). This collective identity can then be employed to organize for desired changes within society and its institutions.

Like other social and political movements that have sought to center marginalized voices, the neurodiversity movement emphasizes the role of neurodivergent individuals as experts of their conditions and their experience (Bumiller, 2008; Gillespie-Lynch, et al., 2017; Sarrett, 2016; Yergeau, 2018). This pushes against traditions of viewing medical and psychological professionals, as well as nonprofits and organizations that are staffed by nonautistic individuals and/or cater to nonautistic parents of autistic children (e.g., Autism Speaks), as the primary authorities on autism (Graby, 2015). Instead, neurodiversity advocates promote the idea that neurodivergent individuals have valuable knowledge and insights regarding their life experiences and how they would like to be treated (Graby, 2015).

By building on the social model of disability and valuing the perspectives and experiences of neurodivergent people, proponents of the neurodiversity movement view the primary solution of the difficulties associated with neurodiversity in society is to change society to accept neurodiversity rather than change the neurodivergent individual

to fit societal standards of normalcy (Bagatell, 2007; Cascio, 2012; Graby, 2015; Kapp, 2020; Nicolaidis, 2012; Runswick-Cole, 2014; Walker, 2012). Proponents of neurodiversity critique therapeutic methods that seek to change unusual but harmless behaviors (e.g., not maintaining eye contact, repetitive self-soothing behaviors) (Graby, 2015; Kapp et al., 2013; Kirkham, 2017). Additionally, proponents of neurodiversity critique rhetoric that advocates for finding a cure for conditions under the neurodiversity umbrella (Bagatell, 2007; Gillepsie-Lynch et al., 2017; Graby, 2015; Ortega, 2009). Instead, proponents of neurodiversity advocate for research, accommodations, and therapies that improve a neurodivergent person's subjective well-being (Kapp et al., 2013). These stances reflect the attitudes of neurodiversity advocates that neurodevelopmental differences are natural and neutral or positive aspects of one's brain and an essential component of one's identity. Seeking to eliminate such differences, however, frames them as undesirable, negative, and abnormal.

The neurodiversity movement has become an important component of the self-concept of many neurodivergent individuals, as they become aware of the movement primarily through informal online venues (Brownlow & O'Dell, 2006; Griffin & Pollak, 2009; Jordan, 2010). This positive and contextual reframing of stigmatized conditions has also shown promise as foundations for interventions that could improve the well-being of neurodivergent individuals (Gillespie-Lynch et al., 2017). However, psychological research has largely paid little attention to the movement. Indeed, psychological research has generally paid little attention to disability, especially outside of a medical model (Olkin & Pledger, 2003).

Disability Studies in Psychology

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Despite the advances within other fields (e.g., sociology, humanities, history) in the critical study of disability and disability scholarship, researchers within psychology have rarely engaged in the critical study of disability (Goodley & Lawthom, 2006; Olkin & Pledger, 2003). Instead, psychologists have primarily studied disability from the perspective of the medical model, in which the individual's impairment and professional treatment of these impairments (e.g., medicine, psychotherapy, physical therapy) are emphasized, to the detriment of social, political, or contextual factors that contribute to the experience of disability (Goodley & Lawthom, 2006; Olkin & Pledger, 2003). Analyzing the contextual factors of disability remains an understudied topic within psychology, despite psychologists' calls to understand the sociopolitical context of disability and to understand disability outside of a medical model (Barker, 1948; Dirth & Branscombe, 2018; Fine & Asch, 1988; Olkin & Pledger, 2003).

In particular, there has been a dearth of research within counseling psychology on topics related to disability. For example, a 20-year content analysis found that disability research comprised about 1% of articles in five major counseling psychology journals between 1990 and 2010 (Foley-Nicpon & Lee, 2012). Additionally, in a content analysis of disability research in ten major American Counseling Association journals between 2003 and 2013, only 29 of 2591 published articles addressed disability (Woo et al., 2016). This shortage of research on disability issues within the domain of counseling psychology parallels the lack of attention to education on disability-related content within many counseling, clinical, and school psychology programs, which can lead to inadequate training of mental health professionals for working with clients with disabilities, as well as underrepresentation of professionals with disabilities within

psychological and helping professions (Andrews et al., 2019; Artman & Daniels, 2010; Kemp & Mallinckrodt, 1996; Lund, 2021; Olkin, 2002; Strike et al., 2004). It is necessary for clinicians to receive training on working with disability communities and individuals with disabilities, given the multicultural and social justice frameworks valued by counseling psychology programs and given the prevalence of disability within the general population (e.g. Ratts et al., 2004). Therefore, it is important to have a deeper understanding of disability movements and disability identity, including the neurodiversity movement.

Although disability activism and identity have remained understudied within psychological research, much of the research that does exist shows the potential of the neurodiversity movement for promoting social and individual well-being among neurodivergent individuals. For example, having a positive sense of disability identity and a sense of belonging to a disability community have been shown to predict several positive mental health outcomes among individuals with a variety of disabilities (Bogart, 2014; Bogart, 2015; Nario-Redmond et al., 2012), including autism (Cooper et al., 2017; Gillespie-Lynch et al., 2017; Griffin & Pollack, 2009). Additionally, engagement in disability rights advocacy has been shown to have potential for mental health benefits and reduction in disability stigma among people with disabilities (Bogart et al., 2018; Nario-Redmond & Oleson, 2016). The neurodiversity movement provides a positive revaluation of a stigmatized disability identity and provides a disability community to individuals who may have been isolated from others. Therefore, it is likely that involvement within the neurodiversity movement and/or endorsement of its attitudes would predict positive mental health outcomes. However, without a scale to assess attitudes that endorse

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neurodiversity principles, the question of whether endorsing attitudes congruent with neurodiversity movement could lead to beneficial mental health outcomes cannot be studied using quantitative research methods.

Previous researchers (e.g., Kapp et al., 2013) have attempted to create a scale to assess neurodiversity attitudes, but it was limited in terms of its validation and applicability. For example, Kapp and colleagues (2013) engaged in a mixed-methods approach that included qualitative questions (e.g., "What is the neurodiversity movement in your words?") and coding the valence of responses, as well as a quantitative scale about beliefs regarding parenting practices of autistic children. Although such methodology led to significant contributions to the study of neurodiversity, particularly within psychological research, Kapp and colleagues (2013) recommend formal scale development and validation research regarding conceptions of neurodiversity. A scale that assesses endorsement of neurodiversity attitudes would fulfill multiple purposes: to create a more unified definition of neurodiversity and to serve as the foundation for future psychological research that focuses on neurodiversity attitudes.

Current Study

Using methods outlined by DeVellis (2016), I developed a scale that assesses endorsement of neurodiversity attitudes, with particular emphasis on autism. Additionally, I examine how endorsement of such attitudes relate to activism advocating for oppressed groups, well-being (e.g., self-esteem, resilience, anxiety symptoms), disability prejudice, and endorsement of the medical and social models of disability. I also assess whether neurodivergent individuals who endorse different levels of neurodiversity attitudes compared to the general population.

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I hypothesize that endorsement of neurodiversity attitudes will be positively correlated with endorsement of the social model of disability (i.e., the philosophy that disability—separate from physical impairment—is created through social forces), due to the theoretical influence that the social model of disability has had in the formation of the construct of neurodiversity (Singer, 1999). Since the medical model (i.e., the philosophy that disability is created through a medical, physical, or psychological mechanism that leads to impairment) and social model of disability are frequently construed as opposing models, I also hypothesize that endorsement of neurodiversity attitudes will be negatively correlated with endorsement of the medical model of disability (Pledger, 2003). In terms of possible associations between endorsement of neurodiversity attitudes and activism, I hypothesize that there will be a positive association between the two due to the role that neurodiversity has played in activist communities (e.g., disability rights movements, autistic self-advocacy movements) (Dekker, 1999; Singer, 1999). Given that the theoretical foundation of neurodiversity is based on critically evaluating and disrupting negative and stigmatizing attitudes toward neurodivergent people, I hypothesize that endorsement of neurodiversity attitudes will be negatively correlated with anti-disability prejudice (Gillespie-Lynch et al., 2017). However, there is limited quantitative literature on this subject, so this is an exploratory hypothesis.

Because the neurodiversity movement arose within neurodivergent communities, it seems likely that people who identify as neurodivergent are more likely to endorse attitudes congruent with the neurodiversity movement compared to the general population (Gillespie-Lynch et al., 2017). The development and validation of the neurodiversity attitudes scale will assist in this exploratory analysis.

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CHAPTER 3

METHODS

Item Pool Development

The methodology for developing and validating the Neurodiversity Attitudes

Scale draws from the work of DeVellis (2016), who outlined procedures for

psychological researchers to use when developing scales. The first step in scale

development articulated by DeVellis (2012) is to clearly determine what construct(s) is

being measured. This is based on both the interests of the researcher and the literature.

The literature review section of this dissertation articulates the constructs of interest to be

measured. The second step is to generate in item pool representing these constructs. In

order to do this, the theoretical literature on neurodiversity was thoroughly reviewed and

a comprehensive pool of 48 potential items was created using a Likert-type scale, as well

as one qualitative free response item (i.e., "What is your opinion of the neurodiversity

movement?") (see Table 1).

The next step outlined by DeVellis (2016) Is to consult with experts In the

relevant field to maximize content validity. These experts had the opportunity to make

suggestions regarding the content and clarity of items with a Likert-style rating scale of

content coverage and clarity, as well as the opportunity to provide qualitative comments.

Additionally, these reviewers were prompted to identify aspects of the construct of

neurodiversity that may be missing from the item pool. In addition to including experts in

the scholarship of neurodiversity who have some familiarity with psychological scales, I

aimed to include experts who self-identified as neurodivergent and/or are involved in

neurodiversity activism. Although there is some overlap between these two types of

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experts, I wanted to ensure that the development of a Neurodiversity Attitudes Scale was faithful to the roots of the neurodiversity movement and the motto adopted by many disability rights activists—"nothing about us without us." Thus, I recruited four outside individuals whose expertise included neurodiversity, psychological scale development, and/or autism. Three of these individuals worked in academic fields and were engaged in conducting research, while the other individual was a retired occupational therapist who was highly involved in her local autism community as an autistic self-advocate and organizer of support groups. Three out of the four experts consulted for the item pool self-identified as autistic. Additionally, several proposed items were informally shared with members of an autistic support group for further feedback.

These four experts rated proposed items in terms of clarity and conceptual importance to the construct of neurodiversity. Additionally, these individuals provided qualitative feedback on individual items and/or the entire item pool. Based on the feedback from these expects, I revised the item pool, with a final number of 44 items for the factor analysis, as well as five items assessing level of agreement with the neurodiversity movement and two items prompting qualitative responses regarding participants' perceptions of the neurodiversity movement (see Table 2). Additionally, I received feedback that autistic and neurodivergent survey participants may experience distress when responding to items that were aimed at addressing stigmatizing attitudes (e.g., "People with autism are broken"). Therefore, some items were removed based on this feedback, and an introduction to the scale was added that aimed to prepare study participants for potentially polarizing and/or emotionally-laden items (e.g., "You might find yourself strongly agreeing or disagreeing with these opinions, or you may find

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yourself feeling strong emotions like anger or confusion regarding some attitudes").

Finally, the initial proposed item pool was not specific to any particular diagnosis (e.g.,

autism, learning disability), and instead a non-specific placeholder was used. Given the

potential for an individual to hold different attitudes about different disabilities and

conditions, as well as the strong connection between the neurodiversity movement and

autism self-advocacy movements, I decided to make the scale specific to autism.

Factor Analyses and Hypothesis Testing

Adults were recruited through social media (e.g., Facebook, Reddit) and local

chapters of autism-related organizations (e.g., Alaska Autism Resource Center,

Asperger/Autism Network of New England, Autism Society of Southern Arizona) to

participate in an online survey. Special attention was given to recruiting participants who

self-identify as neurodivergent, disabled, and/or autistic by targeting organizations and

social media groups related to disability or autism. A large ($N = 508$) sample was

recruited, and data were randomly split into two halves to conduct exploratory and

confirmatory factor analyses. Hypothesis testing regarding correlations between the

proposed scale and mental health and activist behaviors was also completed with the

dataset used for the CFA.

After completing informed consent and meeting inclusion criteria (i.e., at least 18

years of age, United States residents), participants completed the questionnaire, which

consisted of demographic questions and the following scales.

Medical Model of Disability

Endorsement of the medical model of disability was measured using the medical

model subscale of the Questionnaire on Disability Identity and Opportunity (Darling &

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Heckert, 2010). This scale consists of 8 statements, for which participants rate their agreement on a 5-point, Likert-style scale. Higher scores indicate higher levels of endorsement of the medical model of disability. Items include statements such as, "People should try to overcome their disabilities." In the original sample of a diverse group of individuals with disabilities, Darling and Heckert (2010) report a Cronbach's alpha level of .63, demonstrating suspect evidence of reliability. The EFA sample for the present study had a Cronbach's alpha level of .52, while the CFA sample for the present study had a Cronbach's alpha level of .35, both showing evidence of low levels of internal consistency for this scale. Due to the poor internal consistency, analyses utilizing this scale were not conducted.

Social Model of Disability

Endorsement of the social model of disability was measured using the social model subscale of the Questionnaire on Disability Identity and Opportunity (Darling & Heckert, 2010). Participants rate their agreement to 7 statements (e.g., "Lack of accessibility and discrimination by employers are the main reasons why disabled people are unemployed") on a 5-point Likert-style scale, with higher scores indicating higher levels of endorsement of the social model of disability. Darling and Heckert's (2010) original sample of diverse adults with disabilities responded to this scale with a Cronbach's alpha of .72, demonstrating acceptable reliability. The EFA sample for the present study had a Cronbach's alpha level of .60, while the CFA sample for the present study had a Cronbach's alpha level of .59. Due to the poor internal consistency, analyses utilizing this scale were not conducted.

Disability Prejudice

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An adapted version of the Modern Attitude Scale Toward People with Intellectual Disabilities (Akrami et al., 2006) was used to assess prejudicial attitudes toward people with disabilities. Participants rate their level of agreement on 5-point Likert-style scale to 11 items. This scale includes three subscales: denial of continuing discrimination (e.g., "Most people with disabilities are no longer victims of discrimination"), antagonism toward demands (e.g., "There have been enough societal efforts in favor of people with disabilities"), and resentment about special favors (e.g., "Society takes more care of people with disabilities than is fair to other groups"). In the original scale development samples, Akrami and colleagues (2006) reported a Cronbach's alpha ranging from .71 to .82, indicating evidence of good reliability. The original scale was adapted to assess attitudes toward disability in general, rather than intellectual disability specifically. The EFA sample for the present study had a Cronbach's alpha level of .84 for the total score, whereas the CFA sample for the present study had a Cronbach's alpha level of .82 for the total score.

Activism

Activism advocating for individuals who have experience oppression was measured using an adapted version of Battle and Harris's (2013) Sociopolitical Involvement measure. This scale has six items that assess frequency of activist behaviors (e.g., "engaged in a protest") on an 8-point Likert-style scale from 1 (never) to 8 (every day), with higher scores indicating higher levels of activism on behalf of oppressed groups. Similar adaptations of this scale have reported Cronbach's alphas ranging from .84 to .85, demonstrating evidence of strong reliability (VanDaalen & Santos, 2017) and have demonstrated evidence of convergent validity between an adapted version of this

scale and willingness to engage in high-risk activism (Santos & VanDaalen, 2018). The current study's EFA had a Cronbach's alpha level of .70, whereas the CFA sample had a Cronbach's alpha level of .67.

Well-Being

The construct of well-being was assessed using multiple scales, as described below.

Self-Esteem

The Rosenberg Self-Esteem Scale (Rosenberg, 1965) was used to assess participants' self-esteem. Participants rated their agreement to 10 statements (e.g., "On the whole, I am satisfied with myself") on a 4-point Likert-type scale, with higher scores indicating more positive views of the self. This scale has been widely used to assess self-esteem, including among individuals with disabilities (Nario-Redmond, Noel, & Fern, 2013) and among autistic individuals (Cooper, Smith, & Russell, 2017), and has been shown to be predictive of other indicators of well-being, such as depression and anxiety symptoms (Sowislo & Orth, 2013). Rosenberg (1986) and Blascovich and Tomaka (1993) reported Cronbach's alphas ranging from .77 to .88. The EFA sample for the present study demonstrated a Cronbach's alpha of .80, and the CFA sample showed a Cronbach's alpha of .83.

Resilience

The Brief Resilience Scale (Smith et al., 2008) was used to measure participants' self-reported ability to recover from stress. Participants rate their agreement to 6 statements on a 5-point Likert-type scale, with higher scores indicating higher endorsement of their own resilience. An example item includes, "I tend to bounce back

quickly after hard times." Smith and colleagues (2008) report Cronbach's alphas ranging from .80 to .91 among diverse adults, indicating evidence of good reliability. Additionally, this scale demonstrates evidence of convergent validity due to positive correlations with optimism, purpose in life, active coping, and positive affect, and negative correlations with pessimism, self-blame, perceived stress, anxiety, depression, and physical symptoms (Smith et al., 2008). Despite the evidence of strong reliability in other samples, the EFA sample for the present study had a Cronbach's alpha level of .32, while the CFA sample for the present study had a Cronbach's alpha level of .28, both demonstrating poor reliability. Due to the poor internal consistency, analyses utilizing this scale were not conducted.

Anxiety Symptoms

The GAD-7 (Spitzer et al., 2006) was used to measure participants' self-reported anxiety symptoms. Participants rate the frequency they have experienced 7 anxiety symptoms (e.g., "Not being able to stop or control worrying") on a 4-point scale, with higher scores indicating higher levels of anxiety. Among the original sample of diverse adults in the United States, Spitzer and colleagues (2006) reported a Cronbach's alpha of .92, indicating excellent reliability. This scale demonstrates diagnostic criterion validity, as mean GAD-7 scores were higher among individuals who were diagnosed with generalized anxiety disorder by independent mental health professionals compared to those without generalized anxiety disorder diagnoses (Spitzer et al., 2006). The Cronbach's alpha for anxiety frequency in the EFA sample was .90, while the Cronbach's alpha in the CFA sample was .89, both demonstrating strong reliability.

Data Analytic Plan

Per the recommendations of Schlomer and colleagues (2010), I planned to check my data for patterns of missingness and potentially conducting multiple imputation procedures to account for missing data—if needed. As described in the previous section, I planned on conducting an exploratory factor analysis (EFA) in order to assess the number of latent variables underlying the item pool and to assess the performance of each item in the scale. Before EFA, I tested the assumption of factorability (Tabachnick & Fidell, 2001) with Bartlett's test of sphericity (Bartlett, 1950) and The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. Next, principal axis factoring was used as the factor extraction method to identify underlying factor structure by analyzing the communality, or common variance, among items (Kahn, 2006). An oblique rotation, specifically a direct Oblimin rotation, was used because the potential factors were expected to be correlated due to the common underlying construct (Kahn, 2006). Specifically, the potential factors consisted of distinct constructs (e.g., stigma, identity centrality) that were brought together under the umbrella of the larger construct of neurodiversity. Consistent with recommended guidelines (e.g., Fabrigar et al., 1999; Worthington & Whittaker, 2006), the criteria used to determine factor retention included a) the Scree test (Cattell, 1966), b) Parallel Analysis (Horn, 1965), c) a minimum loading of at least 3 items per factor, and d) conceptual interpretability. Item retention was based on the following criteria: a) minimum loading of .32, b) no cross-loadings greater than .35, c) the difference between an item's strongest factor loading and other loadings must be > .15, and d) items must be logically related to the other items on the factor (Nunally & Bernstein, 1994; Tabachnick & Fidell, 2001; Worthington & Whittaker, 2006). Next,

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to provide initial internal consistency reliability estimates, Cronbach's alphas (Cronbach, 1951) would be calculated for potential subscale and total scale scores.

For the confirmatory factor analysis, the survey data were exported to Mplus. The fit of the CFA model to the data was evaluated using standard SEM fit indices (cf. Kline, 2010 as follows: two "absolute" fit indices which compare the covariance structure implied to the model against the covariance structure observed in the data and two "relative" fit indices which compare the fit of the specified model against that of a null model with no paths or latent variables. As absolute fit indices, I used the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR). As relative fit indices, I used the comparative fit index (CFI) and the non-normed fit index (NNFI) which is known as the Tucker-Lewis Index (TLI). I planned to follow the guidelines proposed by Kline (2010): CFI $\geq$ .95, NNFI $\geq$ .90, RMSEA $\leq$ .08, and SRMR $\leq$ .06. If the model does not fit the data adequately, I planned to delete indicators that only pattern weakly on their respective latent factors and then re-estimate the model until arriving at an acceptable fit. In order to assess the validity of the neurodiversity attitudes scale, I conducted bivariate correlations between the proposed scale and scales assessing the endorsement of the social and medical models of disability.

Next, I conducted bivariate correlations between study variables to test hypotheses regarding potential associations between the neurodiversity attitudes scale and well-being, activism, and anti-disability prejudice. Additionally, I conducted t-tests within SPSS to test research hypotheses regarding differences in neurodiversity attitudes between autistic individuals and the general population.

CHAPTER 4

RESULTS

Per the recommendations of Schlomer and colleagues (2010), survey data were

assessed for patterns of missingness. The percentage of missing scale-level variable

responses in EFA sample ranged from 5.2 to 5.6%, while the percentage of missing scale-

level variable responses in CFA sample ranged from 3.5 to 7.3%. The final EFA and

CFA sample were deemed suitable for analyses because less than 10% of scale-level data

were missing for each variable, which is recommended to avoid biased results (Schlomer

et al., 2010).

Participant Characteristics

A total of 508 individuals completed the questionnaire. In order to conduct the

EFA and CFA, the data were randomly divided in half, leading to samples of 249 for the

EFA and 259 for the CFA, validity tests, and hypothesis testing (i.e., testing how

neurodiversity attitudes are related to conceptualizations of disability, engagement in

activism, and indicators of mental health). Each sample included a diverse group of U.S.

adults across gender, racial/ethnic, educational, political, and geographic lines, with a

large portion identifying as having a disability (see Table 3). There were no significant

demographic differences between samples.

Previous research has indicated that individuals may have varying responses to

questions about disability self-identification, depending on the types of survey questions

(Bogart et al., 2017). Additionally, many individuals remain unfamiliar with the

neurodiversity movement or may be confused about the change in autism criteria in the

DSM-5. Therefore, the questionnaire contained several questions regarding self-

identification as neurodivergent, autistic, and/or disabled. Table 4 provides information regarding the distribution of individuals who self-identify under particular labels and definitions of disability and neurodiversity. Compared to non-autistic participants, autistic participants indicated that they had more social connections to other autistic individuals. Within the EFA sample, compared to non-autistic participants, autistic participants were more likely to endorse that at least one of their immediate [X^2 (3, $N = 249$) = 33.21, $p < .01$] or extended [X^2 (3, $N = 249$) = 35.40, $p < .01$] family members, romantic partner [X^2 (3, $N = 249$) = 10.70, $p = .01$], or friends [X^2 (3, $N = 249$) = 42.29, $p < .01$] were autistic. Within the CFA sample, compared to non-autistic participants, autistic participants were more likely to endorse that at least one of their immediate family members [X^2 (3, $N = 259$) = 38.49, $p < .01$] or at least one of their coworkers or work supervisors [X^2 (2, $N = 259$) = 8.67, $p = .01$] were autistic. Additionally, in the CFA sample, non-autistic participants were more likely to report that they had never met an autistic person, compared to autistic participants [X^2 (4, $N = 259$) = 16.60, $p < .01$].

Exploratory Factor Analysis

Before conducting the EFA, the assumption of factorability (Tabachnick & Fidell, 2001) was tested using Bartlett's test of sphericity (Bartlett, 1950) and The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. The final proposed EFA model had a significant Bartlett's test of sphericity, with χ^2 (276) = 1827.96, $p < .001$ and a KMO of 0.84, indicating that the data was appropriate for factor analysis (Kaiser, 1974; Pett et al., 2003).

As stated in the data analytic plan, principal axis factoring with a direct Oblimin rotation was utilized as the factor extraction method to identify underlying factor

structure by analyzing the communality among items (Kahn, 2006). An iterative series of EFA's was conducted in order to determine the most appropriate model that fit the following criteria: a) a minimum loading of .32, b) no cross-loadings greater than .35, c) no cross-loadings with a difference of less than .15 from the main factor, d) conceptual coherence between items on a particular scale (Nunally & Bernstein, 1994; Tabachnick & Fidell, 2001; Worthington & Whittaker, 2006). Additionally, as described in the data analytic plan, the Scree test (Cattell, 1966), parallel analysis (Horn, 1965), a minimum loading of at least 3 items per factor, and conceptual interpretability were used in order to determine factor retention. Using these criteria, a three-factor solution was found, after removing 20 items due to poor item loading or high cross-loadings (see Table 5).

The first factor, Autism Stigma, consists of 14 items that indicate stigmatizing views toward autism or autistic people (e.g., "Being diagnosed with autism is a tragedy"). All items would be negatively scored. This factor accounted for 39.66% of the variance in the model. The second factor, Autism Identity, includes 7 items that portray autism as a central, fundamental part of identity that is viewed either neutrally or positively (e.g., "Autism is a central part of an autistic individual's identity"). This factor accounted for 11.04% of the variance. Finally, the third factor, Autism Separability, has 3 items that portray the conceptual and/or linguistic inseparability of autism from an autistic person's experience [e.g., "I prefer using identity-first language to describe people (i.e., 'autistic person' instead of 'person with autism')"]. This factor accounts for 8.16% of the variance.

Cronbach's alphas were calculated for the subscale and total scale scores in order to provide internal consistency estimates. The Autism Stigma subscale had a Cronbach's

alpha of .93. Autism Identity had a Cronbach's alpha of .73, and Autism Separability had

a Cronbach's alpha of .63. Finally, the Cronbach's alpha for all 24 items of the revised

scale was .93. Additionally, the Autism Stigma scale was significantly and positively

correlated with the other two subscales, though the Autism Identity and Separability

subscales were not significantly related to each other (see Table 6) Per Cohen's (1988)

conventions for effect size, the correlation between Autism Stigma and Autism Identity

subscales demonstrates a somewhat large effect size, and the correlation between Autism

Stigma and Autism Separability shows a small-to-moderate effect size.

Confirmatory Factor Analysis

A CFA was conducted using the three-factor model with 24 items described in the

previous section with a sample of 259 participants. Nine of participants did not complete

the Neurodiversity Attitudes Scale, so their data was not included in the CFA, leaving a

final sample of 250. A robust maximum likelihood estimator was used to account for any

potential non-normality in indicator variables (Brown, 2015). The hypothesized model

resulted in a significant chi-square test [$\chi^2(249) = 347.44$, $p < .01$], initially indicating

potential poor model fit. However, scholars have noted that chi-square tests of model fit

may frequently be significant with large sample sizes, even if the model fits well (Brown,

2006). Therefore, additional model fit indices were used. The RMSEA of the model used

in the CFA was 0.04, indicating good model fit (Brown, 2006; Kline, 2010). The SRMR

was greater than the 0.06 cutoff at 0.07, indicating potentially poor model fit (Kline,

2010). However, other scholars assert that SRMR values below 0.08 indicate acceptable

model fit (Browne & Cudeck, 1993; Hu & Bentler, 1999). Additionally, the TLI of 0.88

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and CFI of 0.89 were close, but slightly lower than the predetermined cutoffs of 0.90 and 0.95, respectively (Kline, 2010).

In order to improve model fit, model modification indices were examined. When the residuals of items 1 and 2 were correlated, CFI > .90, indicating stronger model fit. Allowing these residuals to be correlated was theoretically justified due to (a) each of the items loaded on the same factor and similarly measured constructs related to autistic identity. The new model resulted in a significant chi-square test [χ^2 (248) = 334.03, $p <$ .01], so once again additional model fit indices were used. The RMSEA of the model used in the CFA was 0.04, and the SRMR was .06, both indicating good model fit (Kline, 2010). The model also demonstrated good relative fit in terms of the TLI being 0.89 (Kline, 2010). Comparison between model fit of the two models is illustrated in Table 7. Because the second model with correlated residuals demonstrated a stronger fit than the original hypothesized model, the second model is used in the path diagram (see Figure 1). All factor loadings were statistically significant.

Cronbach's alphas for the total scale and three subscales were calculated with the CFA sample, resulting in α = 0.93 for the Autism Stigma subscale, α = 0.71 for the Autism Identity subscale, α = 0.46 for the Autism Separability subscale, and α = 0.93 for the overall scale. Additionally, all subscales were significantly correlated with each other (see Table 8). The Autism Stigma subscale was positively and moderately correlated with the Identity (r = .44, $p <$ .01) and Separability (r = .30 $p <$ .01) subscales, and the Identity subscale was positively correlated with the Separability (r = .14, $p <$ .05) subscale, although the effect was small.

Validity Analyses and Hypothesis Testing

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Bivariate correlations were conducted between study variables in the second half of the dataset (i.e., the dataset used for the CFA) to test hypotheses and examine the validity of the proposed Neurodiversity Attitudes Scale. The Neurodiversity total score was positively correlated with engaging in activism ($r = .16$, $p < .05$), self-esteem ($r = .230$, $p < .05$), age ($r = .22$, $p < .05$), and education level ($r = .18$, $p < .05$), though effect sizes were small. On the other hand, the Neurodiversity total score was negatively correlated with negative attitudes toward people with disabilities ($r = -.69$, $p < .05$) with a large effect size and subjective socioeconomic status ($-.43$, $p < .05$) with a moderate-to-large effect size. There was no significant association between the Neurodiversity total score and anxiety symptom frequency or severity. The negative associations between the Neurodiversity total score negative view towards people with disabilities provides support for construct validity of the Neurodiversity Attitudes Scale because this significant correlation occurred in the hypothesized directions. Additionally, endorsement of medical and social models of disability were correlated with the Neurodiversity total score in the hypothesized directions. However, due to low internal consistencies of these subscales, further analyses should be conducted regarding construct validity and models of disability.

Additionally, bivariate correlations were conducted for each of the subscales of the Neurodiversity Attitudes Scale, as shown in Table 8. Importantly, the direction and significance of correlations between subscales of the Neurodiversity Attitudes Scale supported hypotheses that endorsement of a neurodiversity framework would be negatively associated with anti-disability prejudice with large effect sizes. The measures of psychological well-being showed differing associations with the subscales of the

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Neurodiversity Attitudes Scale with small effect sizes. Although self-esteem was positively related to the stigma and identity subscales, it was not related to the separability subscale of the Neurodiversity Attitudes Scale. Anxiety symptom frequency or severity were not significantly associated with any of the subscales of the Neurodiversity Attitudes Scale.

Next, t-tests were conducted in order to assess differences in endorsement of the neurodiversity framework between neurodivergent individuals and the general population. Since not all individuals were familiar with the neurodiversity framework, and because the Neurodiversity Attitudes Scale focused on autism, I compared endorsement of the neurodiversity framework between those who self-identified as autistic vs. those who did not. Given the gender, racial/ethnic, immigration status, age-related and socioeconomic disparities in accessing an autism diagnosis, the present analysis included those who self-identified as autistic but lacked professional diagnoses in the autism category (Constantino & Charman, 2012; Kuehn, 2012; Shefcyk, 2015; Travers, Tincani, & Krezmien, 2013; Wiggins et al., 2019; Zuckerman et al., 2017). As hypothesized, t-tests revealed that autistic individuals endorsed the neurodiversity framework more than non-autistic individuals [$t(103) = -3.82$, $p < .01$], with a medium-to-large effect size (Cohen's $d = -0.77$). Exploratory analyses regarding group differences on the subscales were also conducted, using Bonferroni corrections to account for multiple t-tests (i.e., significant p-value less than .0125). These t-tests revealed that autistic individuals endorsed moderately higher levels on the Autism Stigma subscale [$t(103) = -2.98$, $p < .01$, $d = -0.60$] and greatly higher levels on the Autism Separability subscale [$t(102) = -5.41$, $p < .01$, $d = -1.10$] compared to non-autistic participants.

Therefore, compared to non-autistic participants, autistic participants were more likely to report lower levels of autism-related stigma and greater beliefs that autism cannot be separated from one's identity or personhood.

CHAPTER 5

DISCUSSION

The primary purpose of this project was to develop and initially validate a scale

for assessing endorsement of the neurodiversity framework with respect to autism. Factor

analyses with diverse groups of participants revealed that a three-factor model best fit the

Neurodiversity Attitudes Scale, each of which will be discussed in turn. Additional

hypotheses regarding correlations of this scale and its subscales with other constructs

(e.g., psychological well-being, activism, disability attitudes) were also tested.

Facets of Neurodiversity

The factor that explained the majority of variance in the Neurodiversity Attitudes

Scale was Autism Stigma. These items combined a variety of stigmatizing views toward

autism or autistic people, including perspectives that frame autism or autistic people as a

problem for neurotypical loved ones or mainstream society (e.g., "People with autism are

a burden to their loved ones"), perspectives that evoke pity for autistic people or their

loved ones (e.g., "I feel sorry for families of autistic people"), perspectives that frame

autism as a deficit that requires medical or psychological intervention (e.g., "It is

important to find a cure for autism"), and perspectives that position autistic people as

untrustworthy or unreliable (e.g., "I would not trust an autistic person to give me reliable

information about autism"). Although the stigmatizing statements within this subscale are

at times explicitly hostile, many of them take more subtle forms that reflect stigmatizing

assumptions and attitudes. This is consistent with literature on disability

microaggressions, which discusses the ways in which ableism can be expressed subtly or

indirectly but ultimately communicates messages that people with disabilities are

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helpless, are not fully human or "normal," or are too demanding in their accommodation needs (Conover et al., 2017). Although precise definitions of the neurodiversity framework vary, all of these definitions emphasize the need to destigmatize neurodivergent conditions, whether this means taking pride in one's differences (Blume, 1998), viewing these differences as neutral and natural (Singer, 1999), and/or questioning the standard by which these differences are evaluated (Walker, 2012). Thus, this large factor related to Autism Stigma within the Neurodiversity Attitudes Scale is highly consistent with the theoretical literature on neurodiversity as well as the literature on disability microaggressions.

The second facet of the Neurodiversity Attitudes Scale was Autism Identity, which includes items that frame autism as a central and immutable part of one's identity (e.g., "Autism is a fundamental part of who someone is"). Some items in this subscale frame this identity as positive (e.g., "Autism can be a source of pride"). These perspectives are consistent with those articulated from individuals within the neurodiversity movement, who view autism and neurodivergence as important elements of one's identity rather than indicators of a "broken" neurotypical individual or an individual who can be separated from their disability (Bumiller, 2008; Graby, 2015, p. 239; Singer, 1999). One argument articulated by some neurodiversity activists to support the idea that autism can form a central part of one's identity is that autism is immutable and located within the brain (Ortega, 2009). Thus, attempts to alter autistic ways of being (e.g., self-soothing behaviors, social mannerisms, sensory sensitivities) are seen by some as invalidating and pathologizing autistic identity and experience (Kirkham, 2017; Ortega, 2009). Several autistic self-advocates have drawn parallels between Applied

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Behavior Analysis (ABA) interventions for autistic individuals and conversion therapy

for LGBTQ individuals, noting their shared histories in Lovaas' influence in behavioral

interventions utilized in the "Feminine Boy Project," an attempt to prevent homosexuality

or gender transitioning among children (Gibson & Douglas, 2018; Kirkham, 2017;

Rekers & Lovaas, 1974). Despite the potential drawbacks of utilizing such a framework

for promoting LGBTQ rights in Western societies, this essentialist perspective served to

challenge harmful practices that were based on the assumption that it was desirable and

possible for people to purposefully change their sexual orientation or gender identity to

fit heteronormative, cissexist standards (Waidzunas, 2015). Similarly, some

neurodiversity activists have critiqued the essentialist framings of neurodiversity (Walker

& Raymaker, 2020). Nevertheless, it is likely that lay interpretations of neuroscience and

the relative success of this framing with respect to LGBTQ rights have laid the

foundation for this essentialist framing of neurodiversity to serve as a useful strategy for

promoting the rights and dignity of neurodivergent individuals (Ortega, 2009). This

debate around essentialism and neurodiversity demonstrates the importance of identity to

the neurodiversity movement.

The third factor of the Neurodiversity Attitudes scale was Autism Separability, or

the extent that individuals view autism as separable from one's core identity and

experience. This idea is emphasized in Jim Sinclair's (1993) neurodiversity manifesto

"Don't Mourn for Us:"

Autism isn't something a person *has*, or a 'shell' that a person is trapped inside. There's
no normal child hidden behind the autism. Autism is a way of being. It is *pervasive*; it
colors every experience, every sensation, perception, thought, emotion, and encounter,
every aspect of existence. It is not possible to separate the autism from the person—and if

it were possible, the person you'd have left would not be the same person you started with. (para. 6)

Sinclair (1993) explains that autism cannot be accurately viewed as a distinct entity or experience, in which autism is added as an "appendage" (para. 5) to the individual. Instead, from this perspective, autism is a critical core component of the self that cannot be meaningfully disembodied. This perspective is frequently cited in the debate regarding identity-first vs. person-first language, leading many neurodiversity proponents to purposely utilize identity-first language (Kapp et al., 2013; Sinclair, 2012). Thus, the majority of items in this subscale reflect preferences regarding terminology and language.

Hypothesis Testing with Neurodiversity

The results of hypothesis and validity testing with the CFA sample supported some of the proposed hypotheses. Due to the theoretical influence of the social model of disability on the formation of the construct of neurodiversity, it was hypothesized that endorsement of neurodiversity attitudes would be positively correlated with endorsement of the social model of disability and negatively correlated with the medical model of disability (Kapp, 2020; Singer, 1999). Indeed, results indicated that endorsement of neurodiversity attitudes in general—and specifically the Stigma and Identity subscales— were positively correlated with endorsement of the social model of disability. Likewise, the results indicated that the total score and each of the subscales of the Neurodiversity Attitudes Scale were negatively correlated with endorsement of the medical model of disability, which has been frequently contrasted with the social model (Pledger, 2003; Shakespeare, 2017). Although the above results should be interpreted with extreme caution due to the low level of reliability for the social and medical model measures with

this sample, these results indicate that the Neurodiversity Attitudes Scale potentially tap into the theoretical underpinnings of the neurodiversity movement with respect to the models of disability. At the same time, the lack of significant association between endorsement of the social model of disability and the Separability subscale of the proposed measure indicates some of the potential ways that the neurodiversity movement has extended beyond the social model of disability into a unique perspective.

Given the role that the neurodiversity framework has played in activist communities, I hypothesized that there would be a positive association between activism and endorsement of the neurodiversity framework (Dekker, 1999; Singer, 1999). Indeed, results indicated that endorsement of the neurodiversity framework overall—and in particular the Stigma subscale—were positively correlated with self-reported activist behavior. This is consistent with literature on the origins of the neurodiversity movement, as well as the focus of much of disability activist work related to reducing stigma (Pripas-Kapit, 2020). It is important to note that the current study assessed self-reported activist behavior in general for oppressed groups, not just with respect to disability rights. This may indicate that endorsement of the neurodiversity framework is reflective of a general critical consciousness or activist orientation. Many disability rights activists and scholars have noted how such work takes place from an intersectional perspective, as disabled individuals are differentially impacted by larger forces such as racism, sexism, heterosexism, and capitalism (Artiles, 2013; Garland-Thomson, 2005; Levine & Breshears, 2019). It is possible that this framework extends into those who identify with the neurodiversity movement (Strand, 2017 Woods et al., 2018).

With respect to the aims of neurodiversity and disability rights activism in particular, I assessed levels of anti-disability prejudice. Consistent with hypotheses, I found that endorsement of the neurodiversity framework in general, as well as each of its subscales independently, was significantly negatively correlated with endorsement of anti-disability prejudice. This corresponds to the theoretical foundations of the neurodiversity movement in evaluating the meanings of disability and autism, as well as disrupting negative and stigmatizing attitudes toward neurodivergent individuals (Gillespie-Lynch et al., 2017). It is notable that each of the subscales of the Neurodiversity Attitudes Scale is negatively correlated to anti-disability prejudice because two of the subscales (i.e., Identity and Separability) do not explicitly address stigma or prejudice. This may indicate that holding ableist attitudes is inconsistent with viewing autism as a central and potentially positive aspect of one's identity. This is reflected in many autistic self-advocates' position that person-first language or the idea that autism is separate from the rest of one's identity and experience imply that autism is an undesirable characteristic that does not reflect one's "true" character (Sinclair, 1993; Sinclair, 2012). For example, many autistic activists have critiqued metaphorical language that frames autism as an entity that has "stolen" children from their parents, an expression that has historically been promoted by neurotypical-led organizations or groups such as Autism Speaks (Sinclair, 1993; Gross, 2012). Although many professional organizations (e.g., American Psychological Association, Autism Speaks) have promoted the use of person-first language in order to center the humanity and dignity of autistic individuals, critics have noted that this use of language further stigmatizes autism and leads to misunderstanding of autistic experiences (Dunn & Andrews, 2015; Maya, 2019;

Sinclair, 2012). The present study does not directly examine the motivations or impact of person- vs. identity-first language. However, it does indicate that individuals who endorse higher levels of anti-disability prejudice are less likely to view autism as a central, positive, and/or inseparable aspect of one's identity.

Finally, it was hypothesized that autistic individuals would be more likely to endorse attitudes congruent with the neurodiversity movement compared to the general population, given the history of the movement arising within neurodivergent communities (Gillespie-Lynch et al., 2017). Results corresponded with this hypothesis, with self-identified autistic individuals reporting significantly higher levels of endorsement of the neurodiversity framework in general—and the Stigma and Separability subscales in particular—compared to non-autistic individuals. These results may reflect the richer and more varied experiences with autism among those with lived personal experience compared to the neurotypical peers. It may also reflect the pattern observed that autistic participants endorsed knowing other autistic people (e.g., family, friends, coworkers) more frequently than that endorsed by neurotypical participants. Such social contact may also inform the richness of personal experience that informs conceptualizations of autism and neurodiversity. Additionally, endorsement of the neurodiversity framework may provide a self-protective and empowering view of oneself and one's disability (Kapp, 2020; Pripas-Kapit, 2020). Thus, viewing autism with this perspective may be a greater priority for autistic individuals compared to the general population.

Limitations and Future Directions

Despite the strengths of this scale, there were some limitations to this project. First, the Neurodiversity Attitudes Scale was limited in scope to autism. This decision was made based on the strong link between the neurodiversity movement and the autistic self-advocacy movement (Dekker, 1999; Singer, 1999), as well as the conceptual difficulty of creating a unified, cross-diagnostic scale, given the differential histories, social movements, and lived experiences of the wide array of diagnoses that may fit under the neurodiversity umbrella. Although it is possible that endorsing a neurodiversity framework with respect to autism would be correlated with endorsing a neurodiversity framework with respect to other diagnoses, the current scale is currently unequipped to assess general neurodiversity attitudes or neurodiversity attitudes with respect to diagnoses outside of the autism spectrum. Future research should assess how the endorsement of the neurodiversity framework with respect to autism correlates with attitudes regarding other disabilities or diagnoses.

Another limitation of the present study is the size of the third factor of the Neurodiversity Attitudes Scale. Given the item retention criteria, the EFA results indicated that the model best fit with three items in the third factor of Autism Separability. Due in part to the low number of items in this factor, the resulting Cronbach's alphas with the EFA and CFA samples are not as high as those from the other two factors. Model fit decreased when additional items were added to the Autism Separability factor and when the factor itself or its three items were deleted. Thus, the current set of items and factors have been retained in the final models. Future research could develop and test additional items for this factor in order to improve internal consistency and construct validity of the subscale.

One final limitation is the low levels of internal consistency in some of the study scales with the current sample, particularly the Brief Resilience Scale (Smith et al., 2008) and endorsement of the social and medical models of disability from the Questionnaire on Disability Identity and Opportunity (Darling & Heckert, 2010). Given the low levels of reliability in these scales, the present study is limited in terms of the results from analyses that involve these scales. One potential reason for the low levels of internal consistency in certain scales is the composition of the study sample, which consisted mostly of people with disabilities. Although the Brief Resilience Scale (Smith et al., 2008) was initially developed and tested with subsamples of people with disabilities (i.e., cardiac rehabilitation patients and women with fibromyalgia), it is possible that the items in this scale represent different constructs for people with different disabilities, as well as nondisabled participants. For example, a person with a chronic illness or disability might endorse that they disagree with statements such as, "I tend to bounce back *quickly* after hard times [emphasis added]" or, "It *does not take me long* to recover from a stressful event [emphasis added]," in order to indicate the physical, cognitive, or psychological limitations they experience. However, endorsing items in this way does not mean that people with disabilities *cannot* cope with difficult life experiences, just that it can be difficult and time-consuming to do so. The Brief Resilience Scale was utilized in the current study in order to provide a non-stigmatizing and non-diagnostic indicator of wellbeing and life satisfaction. However, future research utilizing diverse samples of participants with and without disabilities should utilize measures that have stronger internal consistency within diverse samples and place less emphasis on extraneous factors (e.g., speed) rather than the construct in question.

It is less clear why the measures of endorsement of the social and medical models of disability had low Cronbach's alphas for the present sample. It is possible that because these scales were developed with a diverse group of adults with disabilities, the reliability is less strong in samples with a wider range of participants (i.e., both participants with and without disabilities; Darling & Heckert, 2010). Alternatively, it is possible that the dichotomy of the medical vs. social models of disability resonate less strongly with a sample that has a high proportion of individuals with invisible disabilities, chronic illnesses, and/or autism. Many disability studies scholars and activists have critiqued the framework of the social model of disability due to its formulation primarily among White disability activists with visible mobility or physical impairments and its limited ability to fully account for the experiences of people who face chronic pain or illness (Goodley et al., 2019; Hughes & Paterson, 1997). Thus, future researchers should develop or refine scales to assess conceptualizations of disability that are reliable and valid across disability status.

CHAPTER 6

CONCLUSIONS

The neurodiversity movement has much to offer the field of counseling psychology due to its destigmatizing framework of autism and other conditions and its prominence within activist and non-academic communities. However, counseling psychologists have provided limited attention to disability movements and disability identity within scholarly literature and training programs (Andrews et al., 2019; Foley-Nicpon & Lee, 2012). Therefore, I have developed and provided initial validation for a scale to assess endorsement of neurodiversity attitudes with respect to autism, resulting in a 24-item scale with three factors: Autism Stigma, Autism Identity, and Autism Separability. This scale provides a foundation for a shared understanding of neurodiversity with respect to autism, as well as the opportunity to utilize this construct within quantitative social scientific research.

As autistic individuals face disproportionately high rates of certain mental health difficulties and suicidality (Hofvander et al., 2009; Zahid & Upthegrove, 2017), victimization from abuse and maltreatment (Ficher et al., 2019; Weiss & Fardella, 2018), and low employment (Roux et al., 2017), it is especially important to psychological research to utilize methods and frameworks that empower people with disabilities and challenge ableism in society as well as in the field. Psychological methods have much to contribute to the study of disability and neurodiversity. For example, future researchers can assess how endorsement of the neurodiversity framework may help autistic individuals or their loved ones cope with the challenges associated with ableism in society, how endorsement of the neurodiversity framework is related to other aspects of

marginalization and identity, or how endorsement of the neurodiversity framework relates to approaches and interventions utilized by helping professionals. By acting as a translator between the worlds of psychological measurement and autistic activism, I hope to bring the two realms closer together to co-create change within counseling psychology.

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APPENDIX A

TABLES AND FIGURES

Table 1. Preliminary Item Pool

Number	Potential Items:
1	[CONDITION]^ is a central part of one's identity
2	[CONDITION] is a fundamental part of who someone is
3	I prefer using identity-first language to describe people (e.g., "autistic person")
4	*It is possible to separate the person from the [CONDITION]
5	*I prefer using person-first language to describe people (e.g., "person with autism")
6	[CONDITION] is hard-wired into the way someone's brain works.
7	If someone has [CONDITION], it cannot be changed.
8	Having [CONDITION] is permanent.
9	[CONDITION] is caused by biology.
10	People with [CONDITION] are born that way
11	*People with [CONDITION] can function in a "typical" way if they have enough therapy
12	*If people with [CONDITION] try really hard, they could be "normal."
13	[CONDITION] is a difference, not an illness
14	There is no "normal" style of human brain or human mind.
15	[CONDITION] is just a form of natural human variation, not a disease or disorder
16	People with [CONDITION] should be accepted for who they are
17	The main problems faced by those with [CONDITION] are caused by how other people treat them
18	There is nothing wrong with [CONDITION] people
19	[CONDITION] is an aspect of human diversity
20	*[CONDITION] is more than just a difference; it is a disorder.
21	*[CONDITION] is something that requires medical or therapeutic treatment
22	*Most of the problems experienced by people with [CONDITION] are caused by the [CONDITION] itself
23	*People with [CONDITION] are broken
24	[CONDITION] can be a source of pride
25	Although people with [CONDITION] have a lot of challenges associated with [CONDITION], [CONDITION] also gives them a lot of strengths
26	I understand why someone with [CONDITION] would be proud to have it
27	It is good for our world to have people with [CONDITION] in it
28	*Being diagnosed with [CONDITION] is a tragedy
29	*I feel sorry for parents and family of people with [CONDITION]
30	*People with [CONDITION] are a burden to their families and loved ones
31	*People with [CONDITION] should try to hide it
32	It is harmful to promote searching for a cure for [CONDITION]
33	Wanting to cure [CONDITION] is the same as not wanting people with [CONDITION] to exist

34	Trying to make people with [CONDITION] appear to be "normal" is harmful to these individuals
35	We should change society so that it is more accepting of people with [CONDITION]
36	It is more important that therapies and treatments focus on improving the quality of life of people with [CONDITION] than making them appear the same as most people
37	*It is important to find a cure for [CONDITION]
38	*People with [CONDITION] need to be cured
39	*We should help people with [CONDITION] change in order to fit into society better
40	*[CONDITION] has become an epidemic
41	*We must fight against [CONDITION]
42	*It is important that people with [CONDITION] learn to act like most people do
43	People with [CONDITION] are the most knowledgeable about [CONDITION].
44	If I wanted to know more about [CONDITION], I would talk to someone with [CONDITION]
45	People with [CONDITION] should be the people making decisions about their lives
46	*Professionals (e.g., doctors, therapists) are the best source of information on the experience of having [CONDITION]
47	*When dealing with [CONDITION], we should trust the professional experts first.
48	*I would not trust someone with [CONDITION] to give me information about [CONDITION]

^The placeholder [CONDITION is used in the preliminary item list due to the wide range of conditions under the neurodiversity umbrella. Expert reviewers were asked for feedback regarding the use of a general vs. specific condition for the scale.

*Asterisks indicate that the item is intended to be negatively scored

Table 2. Revised Item Pool

Instructions: The following statements describe different opinions and attitudes people may have about various topics. You might find yourself strongly agreeing or disagreeing with these opinions, or you may find yourself feeling strong emotions like anger or confusion regarding some attitudes. We are looking for how strongly you agree or disagree with the following statements. Remember, your responses are anonymous and are not linked to your name or contact information.

Many of the next few questions have to do with Autism Spectrum Disorder (ASD). A few years ago, the diagnostic system in the United States changed in order to combine several conditions under the same category. When this questionnaire asks about "autism" or "on the autism spectrum," it refers to the following conditions:

> Autism
> Asperger's Syndrome
> Pervasive Developmental Disorder – Not Otherwise Specified (PDD-NOS)

Additionally, there has been a lot of debate regarding how to refer to individuals on the autism spectrum (e.g., "autistic person" vs. "person with autism"). For the purposes of this survey, I will be using several different types of language.

Please rate how much you agree or disagree with the following statements.

> (0) Strongly disagree
> (1) Disagree
> (2) Neither agree nor disagree
> (3) Agree
> (4) Strongly agree
> (98) No answer

Item Number	Item Text
1	Autism is a central part of an autistic individual's identity
2	Autism is a fundamental part of who someone is.
3	I prefer using identity-first language to describe people (i.e., "autistic person" instead of "person with autism")
4	It is possible to separate the person from the autism*
5	I prefer using person-first language to describe people (i.e., "person with autism" instead of "autistic person")*
6	Autism is hard-wired into the way someone's brain works
7	If someone has autism, it cannot be cured
8	Being autistic is life-long
9	People with autism are most often born with it
10	People with autism should be taught to function in a "typical" way*
11	People with autism should try really hard to be "normal"*

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12	Autism is a difference, not an illness or disease
13	There is no "normal" type of human brain or human mind
14	Autism is a form of natural human variation, not a disorder or deficit
15	People with autism should be accepted for who they are
16	The main problems faced by autistic people are caused by how other people treat them
17	There is nothing wrong with being autistic
18	Autism is an expression of human diversity
19	Autism is more than just a difference; it is a disorder*
20	Most of the problems experienced by autistic individuals are caused by autism itself*
21	Autism can be a source of pride
22	Although people with autism have a lot of challenges associated with autism, autism also gives them a lot of strengths
23	I understand why someone would be proud to be autistic
24	It is good for our world to have autistic people in it
25	Being diagnosed with autism is a tragedy*
26	I feel sorry for families of autistic people*
27	People with autism are a burden to their families and loved ones*
28	People with autism should try to hide it*
29	It is harmful to search for a cure for autism
30	Wanting to cure autism is the same thing as not wanting autistic people to exist
31	Trying to make people with autism appear to be "normal" harms them
32	We should change society so that it is more accepting of autistic people
33	Therapies and treatments for autistic people should focus on improving their quality of life, not on making them appear the same as other people
34	It is important to find a cure for autism*
35	People with autism need to be cured*
36	We should help people with autism change in order to fit into society better*
37	Autism is an epidemic*
38	We must fight against autism*
39	It is important that autistic people learn to act the same way that most people do*
40	If I wanted to know more about autism, I should talk to an autistic person
41	For the most part, people with autism should be the people making decisions about their lives
42	Professionals (e.g., doctors, therapists) are the best source of information on the experience of having autism*
43	When dealing with autism, we should trust the professional experts above other views*
44	I would not trust an autistic person to give me reliable information about autism*

*Indicates negatively-scored item

Additional Items:

Item	Response Options
1. How familiar are you with the neurodiversity movement?^	0. Never heart of it 1. Heard of it, but don't know what it is 2. Somewhat familiar 3. Very Familiar 98. No answer
2. How much do you agree with the goals of the neurodiversity movement?	1. Strongly disagree 2. Disagree 3. Neither agree nor disagree 4. Agree 5. Strongly agree 98. No answer
3. How important is the neurodiversity movement, in your opinion?	1. Not important at all 2. Mostly not important 3. Neutral 4. Somewhat important 5. Very important 98. No answer
4. How necessary is the neurodiversity movement, in your opinion?	1. Very unnecessary 2. Somewhat unnecessary 3. Neutral 4. Somewhat necessary 5. Very necessary 98. No answer
5. How beneficial is the neurodiversity movement to society?	1. Not beneficial at all 2. Not very beneficial 3. Neutral 4. Somewhat beneficial 5. Very beneficial 98. No answer
6. How helpful is the neurodiversity movement to people with disabilities?	1. Very harmful 2. Somewhat harmful 3. Neither helpful nor harmful 4. Somewhat helpful 5. Very helpful 98. No answer
7. How would you define the goals of the neurodiversity movement?	Free response
8. What is your opinion of the neurodiversity movement?	Free response

^Respondents who do not answer "Somewhat familiar" or "Very familiar" do not proceed with the following questions

Table 3. Demographic Information Across Samples

Category	EFA Sample ($N = 249$)		CFA Sample ($N = 259$)	
	Frequency	Percentage	Frequency	Percentage
Gender				
Male	104	41.8%	119	45.9%
Female	132	53.0%	131	50.6%
Non-Binary	10	4.0%	8	3.1%
Other	1	0.4%	1	0.4%
No Answer	2	0.8%	0	0.0%
Identification as Trans				
Yes	19	7.6%	19	7.4%
No	227	91.2%	236	91.1%
Unsure	1	0.4%	3	1.2%
Other	1	0.4%	0	0.0%
No answer	1	0.4%	1	0.4%
Race				
Asian, South Asian, and/or Asian American	27	10.8%	20	7.7%
Native Hawaiian and/or Pacific Islander	19	7.6%	24	9.3%
African American and/or Black	17	6.8%	23	8.9%
Native American and/or American Indian and/or Alaska Native	25	10.0%	22	8.5%
White and/or Caucasian	136	54.6%	130	50.2%
Multiracial	22	8.8%	35	13.5%
Other	0	0.0%	1	0.4%
No answer	4	1.6%	4	1.5%
Latinx Ethnicity				
Not Latinx	221	88.8%	237	91.5%
Latinx	27	10.8%	19	7.3%
No answer	1	0.4%	3	1.2%
Sexual Orientation				
Bisexual or pansexual	31	12.4%	22	8.5%
Gay or lesbian	11	4.4%	9	3.5%
Heterosexual or straight	184	73.9%	212	81.9%
Asexual	11	4.4%	5	1.9%
Unsure or questioning	5	2.0%	4	1.5%
Other	5	2.0%	5	1.9%

No answer	2	0.8%	2	0.8%

Education Level

9th-12th grade (no diploma)	1	0.4%	5	1.9%
High school graduate or GED	33	13.3%	41	15.8%
Some college (no degree)	49	19.7%	52	20.1%
Associate's degree	26	10.4%	38	14.7%
Trade or vocational school degree	31	12.4%	29	11.2%
Bachelor's degree	67	26.9%	66	25.5%
Master's degree	30	12.0%	20	7.7%
Doctorate degree	8	3.2%	8	3.1%
Other	1	0.4%	0	0.0%
No answer	3	1.2%	0	0.0%

Region of Residence in US

New England (CT, ME, NH, RI, VT)	16	6.4%	20	7.7%
Mideast (DE, MD, NJ, NY, PA, DC)	49	19.7%	31	12.0%
Great Lakes (IL, IN, MI, OH, WI)	27	10.8%	26	10.0%
Plains (IA, KS, MN, MO, NE, ND, SD)	18	7.2%	23	8.9%
Southeast (AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, WV)	45	18.1%	39	15.1%
Southwest (AZ, NM, OK, TX)	37	14.9%	50	19.3%
Rocky Mountain (CO, ID, MT, UT, WY)	16	6.4%	24	9.3%
Far West (AK, CA, HI, NV, OR, WA)	37	14.9%	41	15.8%
Other	0	0.0%	2	0.8%
No answer	4	1.6%	3	1.2%

Student Status

Yes, full time	25	10.0%	27	10.4%
Yes, part time	123	49.4%	153	59.1%
No	95	38.2%	75	29.0%
No answer	6	2.4%	4	1.5%

Employment Status

Yes, full time	61	24.5%	54	20.8%
Yes, part time	142	57.0%	165	63.7%
No	38	15.3%	35	13.5%
No answer	8	3.2%	5	1.9%

Political Affiliation

Very liberal	69	27.7%	63	24.3%
Somewhat liberal	59	23.7%	68	26.3%
Moderate	27	10.8%	41	15.8%
Somewhat conservative	29	11.6%	31	12.0%
Very conservative	22	8.8%	26	10.0%
Other	34	13.7%	16	6.2%
No answer	9	3.6%	14	5.4%

Table 4. Disability Identification Across Samples

Question	EFA Sample (N = 249)		CFA Sample (N = 259)	
	Frequency	Percentage	Frequency	Percentage
Do you identify as a person with a disability?				
Yes	172	69.1%	196	75.7%
No	52	20.9%	51	19.7%
Unsure	13	5.2%	6	2.3%
Other	5	2.0%	1	0.4%
User or System Missing	7	2.8%	5	1.9%
Do you believe you fit under the categories of "neurodivergent," "neuroatypical," and/or "neurodiverse?"				
Yes	47	18.9%	52	20.1%
No	17	6.8%	15	5.8%
I have not heard of any of these terms before	32	12.9%	22	8.5%
I have heard of these terms, but don't know what they mean	135	54.2%	159	61.4%
Other	2	0.8%	3	1.2%
User or System Missing	16	6.4%	8	3.1%
Do you have Autism Spectrum Disorder?				
Yes, I have been formally diagnosed	33	13.3%	43	16.6%
I have not been formally diagnosed, but I believe I have it	23	9.2%	24	9.3%
No	64	25.7%	40	15.4%
Unsure	116	46.6%	145	56.0%
Other	1	0.4%	1	0.4%
User or System Missing	12	4.8%	6	2.3%

Table 5. Final 24-Item Neurodiversity Attitudes Scale Factor Loadings

Item	Factor 1	Factor 2	Factor 3
Factor 1: Autism Stigma (N_{items} = 14; eigenvalue = 9.52)			
11. People with autism should try really hard to be "normal"*	**0.87**	0.11	-0.06
36. We should help people with autism change in order to fit into society better*	**0.84**	0.23	0.20
25. Being diagnosed with autism is a tragedy*	**0.82**	-0.11	-0.02
35. People with autism need to be cured*	**0.81**	-0.11	0.09
38. We must fight against autism*	**.80**	-0.13	0.02
39. It is important that autistic people learn to act the same way that most people do*	**0.76**	0.05	0.07
26. I feel sorry for families of autistic people*	**0.73**	0.14	0.12
28. People with autism should try to hide it*	**0.69**	-0.24	-0.31
27. People with autism are a burden to their loved ones*	**0.67**	0.03	-0.23
44. I would not trust an autistic person to give me reliable information about autism*	**0.66**	0.06	0.14
34. It is important to find a cure for autism*	**0.66**	-0.26	0.11
10. People with autism should be taught to function in a "typical" way*	**0.61**	0.00	-0.01
37. Autism is an epidemic*	**0.49**	-0.33	0.05
43. When dealing with autism, we should trust the professional experts above other views*	**0.47**	-0.24	0.14
Factor 2: Autism Identity (N_{items} = 7; eigenvalue = 2.65)			
1. Autism is a central part of an autistic individual's identity	0.13	**0.70**	-0.07
21. Autism can be a source of pride	-0.25	**0.63**	0.27
9. People with autism are most often born with it	-0.08	**0.55**	-0.22
2. Autism is a fundamental part of who someone is	0.12	**0.55**	-0.09
14. Autism is a form of natural human variation, not a disorder or deficit	-0.31	**0.49**	0.10
7. If someone has autism, it cannot be cured.	-0.32	**0.35**	-0.15

| 6. Autism is hard-wired into the way someone's brain works. | -0.21 | **0.35** | -0.30 |

Factor 3: Autism Separability
(N_{items} = 3; eigenvalue = 1.96)

3. I prefer using identity-first language to describe people (i.e., "autistic person" instead of "person with autism")	0.07	0.15	**-0.73**
5. I prefer using person-first language to describe people (i.e., "person with autism" instead of "autistic person")*	0.06	-0.21	**0.70**
4. It is possible to separate the person from the autism*	0.33	0.13	**0.60**

*Negatively-scored item

Table 6. Bivariate correlations, means, and standard deviations for Neurodiversity Attitudes Scale subscales: EFA sample

	Factor 1: Stigma	Factor 2: Identity	Factor 3: Separability	Means (SD)
Factor 1: Stigma	-	.49**	.25**	3.27 (0.79)
Factor 2: Identity	.49**	-	.11	3.49 (0.78)
Factor 3: Separability	.25**	.11	-	2.88 (1.00)

**$p < .01$

Table 7. Confirmatory Factor Analysis Fit Indices Comparison Summary

Index	Hypothesized Model	Revised Model^
χ^2	347.44**	334.03**
df	249	248
CFI	0.89	0.90
SRMR	0.07	0.06
RMSEA	0.04	0.04
90% CI	[0.03, 0.05]	[0.03, 0.05]
TLI	0.88	0.89

^The revised model correlates the residuals of items 1 and 2
**$p < .01$

Table 8. Bivariate correlations, means, and standard deviations for study variables: CFA sample

Variables	1	2	3	4	5	6	7	8	9	10	11	Mean (SD)
1. Autism Stigma	--											3.27 (0.78)
2. Autism Identity	.44**	--										3.43 (0.80)
3. Autism Separ.	.30**	.14*	--									3.00 (0.99)
4. NAS Total[1]	--	--	--	--								3.28 (0.64)
5. Dis. Prejudice[2]	-.65**	-.56**	-.18**	-.69**	--							2.48 (0.83)
6. Activism	.17**	.06	.10	.16*	-.15*	--						1.68 (0.86)
7. Self-Esteem	.25**	.21**	-.09	.23**	-.025**	-.04	--					22.11 (6.02)
8. Anxiety	.03	.06	.09	.06	-.12	.17*	-.26**	--				8.37 (5.04)
9. Age	.21**	.18**	-.04	.22**	-.30**	.05	.13*	-.06	--			30.07 (9.61)
10. Educ.	.14**	.20**	.01	.18**	-.30**	-.00	.16*	.01	.20**	--		5.40 (1.78)
11. SES	-.35**	-.46**	-.08	-.43**	.50**	-.02	-.10	-.15*	-.09	-.00	--	7.69 (2.66)

*p < .05, **p < .01
[1]Neurodiversity Attitudes Scale Total
[2]Anti-Disability Prejudice

Figure 1. Path Diagram of Revised CFA Model with Standardized Parameter Estimates
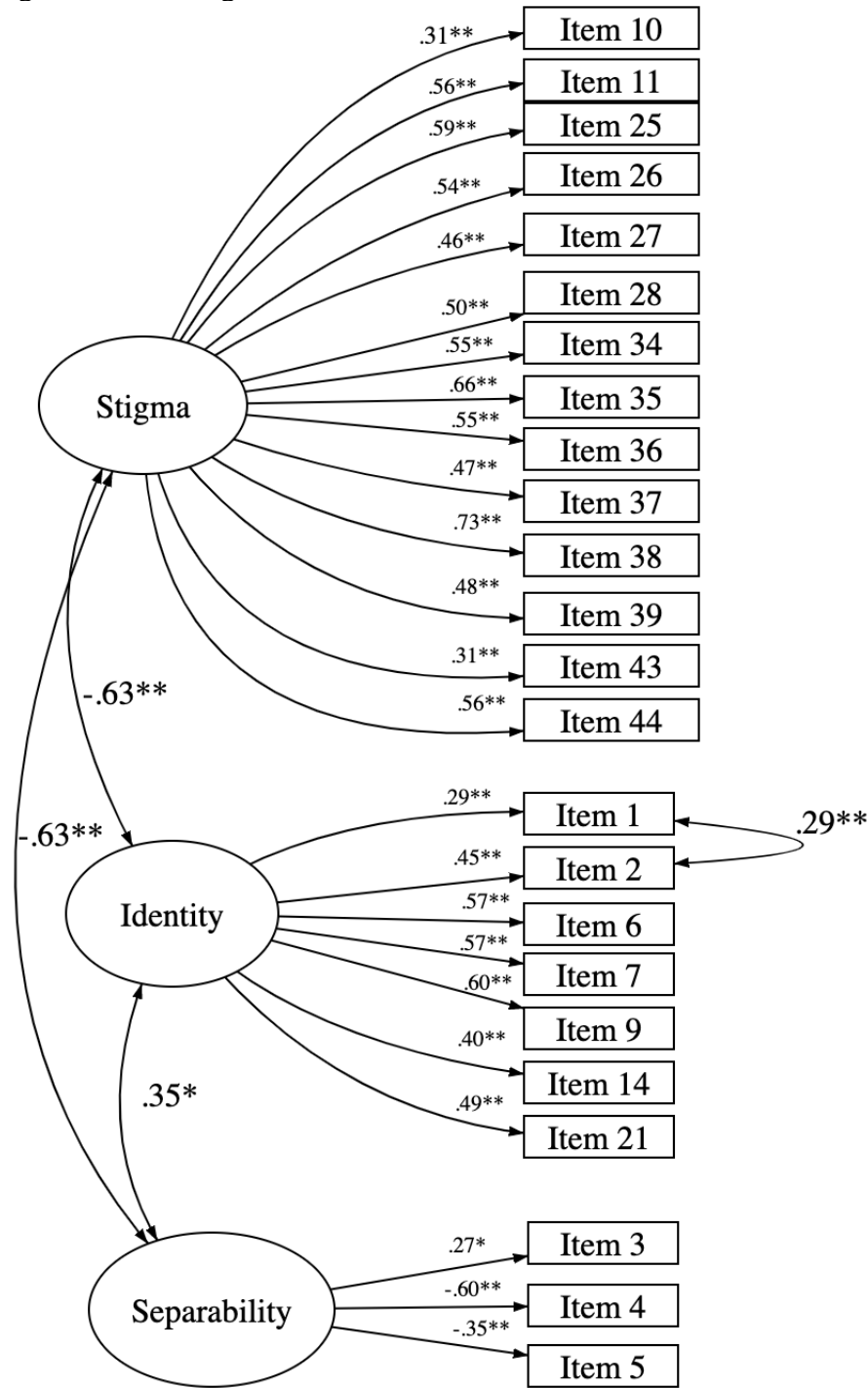
*p < .05; **p < .01

APPENDIX B

IRB APPROVAL

The University Human Subjects Institutional Review Board (IRB) of Arizona State University approved the study titled Development and Validation of Neurodiversity Attitudes Scale (IRB ID: STUDY00011291) for human subjects research on January 8, 2020, under the supervision of Frank Dillon.